

List of Acronyms

ADA	Americans with Disabilities Act
AFS	AIRS Facility Subsystem
AFV	alternative fuel vehicle
ATS	American Travel Survey
BNSF	Burlington Northern Santa Fe
BTS	Bureau of Transportation Statistics
Btu	British thermal unit
CAA	Clean Air Act
CFCs	chlorofluorocarbons
CFC-12	dichlorofluoromethane
CFS	Commodity Flow Survey
CO	carbon monoxide
CO ₂	carbon dioxide
dB	decibels
dBA	A-weighted decibels
DGBS	Differential Global Positioning System
DOT	U.S. Department of Transportation
DWT	deadweight tons
EIA	Energy Information Administration
EPA	U.S. Environmental Protection Agency
EV	electric vehicle
FAA	Federal Aviation Administration
FARS	Fatality Analysis Reporting System
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	fiscal year

GAO	General Accounting Office
GDD	Gross Domestic Demand
GDP	Gross Domestic Product
GES	General Estimates System
GPRA	Government Performance and Results Act
GPS	Global Positioning System
HAP	hazardous air pollutant
HMIS	Hazardous Materials Information System
HPMS	Highway Performance Monitoring System
HSR	high-speed rail
ICAO	International Civil Aviation Organization
IRI	International Roughness Index
ISTEA	Intermodal Surface Transportation Efficiency Act
IT	information technologies
ITCS	Incremental Train Control System
ITD	International Trade Division
ITDB	Intermodal Transportation Database
ITS	intelligent transportation system
LPG	liquefied petroleum gas
LTO	landing and takeoff
MAC	mobile air conditioning
MACT	maximum achievable control technology
MARAD	Maritime Administration
mmtc	million metric tons of carbon
mpg	miles per gallon
mph	miles per hour
MPO	metropolitan planning organization
MTBE	methyl-tertiary-butyl-ether
N ₂ O	nitrous oxide
NAFTA	North American Free Trade Agreement
NET	National Emissions Trends
NHTSA	National Highway Traffic Safety Administration
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NPIAS	National Plan of Integrated Airport Systems
NPTS	Nationwide Personal Transportation Survey
NTAD	National Transportation Atlas Databases
NTI	National Toxics Inventory

OPEC	Organization of Petroleum Exporting Countries
OPS	Office of Pipeline Safety
ORNL	Oak Ridge National Laboratory
PCBs	polychlorinated biphenyls
PCCIP	President's Commission on Critical Infrastructure Protection
PM-2.5	particulate matter of 2.5 microns in diameter or smaller
PM-10	particulate matter of 10 microns in diameter or smaller
POV	privately owned vehicle
PSR	Present Serviceability Rating
PUV	personal-use vehicle
quads	quadrillion
R&D	research and development
SCTG	Standard Classification of Transported Goods
SM/N	small metropolitan/nonmetropolitan
SO ₂	sulfur dioxide
TEA-21	Transportation Equity Act for the 21st Century
TEM	transportation equipment manufacturing
TEU	20-foot equivalent container unit
TIUS	Truck Inventory and Use Survey
TRB	Transportation Research Board
TRDD	transportation-related domestic demand
TRFD	transportation-related final demand
TRI	Toxics Release Inventory
TRRL	Transport and Road Research Laboratory
TSAs	Transportation Satellite Accounts
TSAR	<i>Transportation Statistics Annual Report</i>
TSAR98	<i>Transportation Statistics Annual Report 1998</i>
TTI	Texas Transportation Institute
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
UST	underground storage tank
vmt	vehicle-miles traveled
VOC	volatile organic compounds
VTs	Vessel Traffic Service

WHO World Health Organization

Y2K Year 2000

ZEV zero-emission vehicle

U.S./Metric Conversions and Energy Unit Equivalents

U.S. TO METRIC

Length (approximate)

1 yard (yd) = 0.9 meters (m)

1 mile (mi) = 1.6 kilometers (km)

Area (approximate)

1 square mile (sq mi, mi²) = 2.6 kilometers (km²)

1 acre = 0.4 hectares (ha) = 4,000 square meters (m²)

Mass/Weight (approximate)

1 pound (lb) = 0.45 kilograms (kg)

1 short ton = 2,000 pounds (lbs) = 0.9 metric tons (t)

Volume (approximate)

1 quart (qt) = 0.96 liters (l)

1 gallon (gal) = 3.8 liters (l)

Energy Units (approximate)

1 British thermal unit (Btu) = 250 calories = 1,055 joules

1 calorie (cal) = 4.186 joules (exactly)

1 barrel of oil = 42 U.S. gallons (gal) = 0.16 cubic meters (m³)

1 quadrillion Btu (quad) = about 170 million barrels of crude oil

METRIC TO U.S.

Length (approximate)

1 meter (m) = 3.3 feet (ft)

1 meter (m) = 1.1 yards (yd)

1 kilometer (km) = 0.6 miles (mi)

Area (approximate)

1 square kilometer (km²) = 0.4 square miles (sq mi, mi²)

10,000 square meters (m²) = 1 hectare (ha) = 2.5 acres

Mass/Weight (approximate)

1 gram (gm) = 0.036 ounces (oz)

1 kilogram (kg) = 2.2 pounds (lb)

1 metric ton (t) = 1,000 kilograms (kg) = 1.1 short tons

Volume (approximate)

1 liter (l) = 1.06 quarts (qt)

1 liter (l) = 0.26 gallons (gal)

Energy

1 joule = 0.24 calories (cal)

1 exajoule = 10¹⁸ joules

SOURCE: U.S. Department of Commerce, National Institute of Standards and Technology.

Index

A

Accidents

- aircraft, 84, 85, 86, 88, 89
- bicycling, 4, 8, 37, 83, 84, 86, 87, 91, 93, 95–96
- buses, 83, 84, 86, 87, 88, 91, 92–93
- causes,
 - alcohol/drug abuse, 8, 88, 94, 95
 - age factors, 7, 94, 95
 - bicycling, 95, 96
 - darkness, 94, 96
 - motor vehicle/pedestrian, 7, 94, 95
 - weather, 8
- data needs, 10, 88, 100–101
- developing countries, 98–99
- elderly persons, 7, 94
- gender factors, 98–99
- injury/exposure, 100
- light trucks/SUVs, 43, 84, 86, 87, 88, 91, 92–93
- by mode of transportation, 83
- motor vehicles, 7, 84
 - age factors, 7, 94, 95
 - buses, 83, 84, 86, 87, 88, 91, 92–93
 - light trucks, 43, 84, 86, 87, 88, 91, 92–93
 - pedestrians, 7, 84, 86, 93, 94, 95, 96
 - personal-use, 7, 84, 86, 87, 89, 91, 92
 - trucks, 88
- pipelines, 85, 86
 - data needs, 8, 100
 - property damage, 124
 - spills, 124, 137
- police reports, 96
- protective devices,
 - air bags, 88, 90, 134
 - helmets, bicyclists, 96
 - safety belts, 88, 90, 92
- rail transportation, 32, 85
- recreational boating, 84, 85, 86
- school bus safety, 83, 88, 91, 92–93
- SUVs, *see* “light trucks” *supra*
- transit, 84, 85; *see* “buses” *supra*
- waterborne transportation, 84, 85, 86

see also Crashes; Fatalities; Injuries;

Transportation safety

Africa, motor vehicle fatalities, 99

African-Americans

local travel, 39

long-distance travel, 40

Age factors

alcohol abuse, 94

children, 7, 39, 40, 41, 83–84, 90–93, 100

fatalities, 90, 91, 92, 94

consumer spending, 72–73

bicycle fatalities, 95

elderly persons, 7, 39, 41, 94, 100

fatalities, 7, 90, 91, 92, 94

local travel, 39, 41

long-distance travel, 40, 41

motor vehicle accidents, 7, 94, 95;

see “children” *supra*

motor vehicle age, 20, 31, 33

pedestrian fatalities, 7, 94

Agricultural products, 52

alcohol fuels, 113, 116, 136

food and kindred products, 5, 68, 71

Air bags, 88, 90, 134

Air conditioning, motor vehicles (CFCs), 9, 122, 138

Aircraft

accidents/fatalities, *see* “accidents/fatalities”
under Air transportation

air pollution, 9, 117, 122, 126, 127, 129, 130–131

Global Positioning Systems, 3, 31–32, 98, 114

data needs, 33, 107

energy use, 107, 109

freight shipments of, 52

icing/deicing, 127

noise, 9, 123, 137

number of, 15, 25

pollutants,

airborne emissions, 9, 117, 122, 126

icing/deicing agents, 127

manufacturing releases, 129, 130–131

terrorism, 97, 98

see also Airports; Air transportation

Airport and Airway Trust Fund, 78

Air pollution, 9, 117

- aircraft, 9, 117, 122, 126, 127, 129, 130–131
- ammonia, 118, 119
- carbon dioxide (CO₂), 8, 104, 115–116, 116, 122
- carbon monoxide (CO), 9, 104, 115–116, 118, 119, 120, 122, 128, 130
- chlorofluorocarbons (CFCs), 9, 117, 122, 133–134
- criteria and related pollutants, 9, 116, 117, 119–120, 123, 126–127, 130, 138
- diesel fuel, 117, 119, 120
- emission controls, 9, 10, 104, 113–114, 115–116, 121, 132
- gasoline, 9, 117, 119–120, 121
 - evaporative emissions, 9, 132
- global climate change/greenhouse gases, 9, 104, 114–116
- hazardous, 9, 104, 116, 121–122, 123, 130–131, 136–137
- lead, 9, 117, 118, 119, 120, 121, 128
- methane, 114
- motor vehicles, 8, 9, 117, 129
 - air conditioning (CFCs), 9, 122, 138
 - emission controls, 9, 10, 104, 113–114, 115–116, 121, 132
 - pollutants released during manufacturing, 128, 129
 - standards, 113–114, 115–116, 121
- nitrogen dioxide (NO₂), 119, 130
- nitrogen oxides (NO_x), 104, 117, 118, 119, 122, 126, 130
- nitrous oxide (NO₂), 114
- ozone, ground-level, 120
- ozone layer depletion, 9, 122, 138
 - chlorofluorocarbons, 9, 117, 122, 133–134
- particulate matter, 117, 118, 119, 120, 125
- pipelines, 9, 122–123
- sulfur emissions, 117, 119, 123, 128
- toxic pollutants, 9, 104, 116, 117, 120, 121–122, 123, 125, 126, 127–130, 133–138 (passim)
- trends, 9, 118, 120
- volatile organic compounds, 9, 104, 117, 118, 119, 123, 128, 130, 132
- see also* Air quality

Airports

- Chicago, 51, 125–126
- condition and performance, 2, 22, 25, 33, 58–59
- data needs, 33, 126
- deicing technology, 127
- District of Columbia, 126–127
- environmental impacts, general, 10, 127, 137
- extent and use, 57–58
- general aviation, 2, 15, 22
- icing/deicing, 127
- Los Angeles, 51
- New York City, 51, 53
- noise, 9, 123, 137
- number and use, 2, 15, 22
- passenger travel, 15
- pollution, 125–127
- runway conditions, 2, 22, 25, 33
- San Francisco, 51, 127
- terrorism, 97
- urban areas, 113–114, 115–116, 121–122, 126
- see also specific cities*
- Air quality, 9, 10, 113
 - Clean Air Act, 114, 116, 121, 136, 137
 - electric vehicles, 113
 - standards,
 - Clean Air Act, 114, 116, 121, 136, 137
 - criteria and related pollutants, 116, 117, 119–120, 123, 126–127, 130, 138
 - electric utilities, 61
 - greenhouse gases, 8, 9, 114
 - motor vehicle emissions, 113–114, 115–116, 121
 - urban, 115–116
 - trends, 118, 120
 - see also* Air pollution
- AIRS Facility Subsystem, 122, 137, 138
- Air taxis, 2, 25, 85, 86, 100
- Air transportation, 57–59
 - accidents/fatalities, 7–8, 84, 85, 86, 88, 89
 - air carriers, number of, 2, 15
 - air taxis, 2, 25, 85, 86, 100
 - baggage, lost, 5, 58–59, 145
 - commuter air carriers, 58, 85
 - costs, 37
 - data needs, 33, 107, 126
 - deicing/anti-icing, 127
 - economic indices, 37, 44

- labor productivity, 6, 76, 77
- employment, 6, 15, 73, 75, 76, 77
- energy use, 105
- extent and use, 2, 13, 22, 25, 57–58
- freight, 2, 4, 6, 15, 22, 44, 50, 51, 53, 124, 127
 - ton-miles, 15, 44, 46
- gender factors, 40
- general aviation, 2, 15, 22, 25, 84, 85, 86, 88, 89, 100, 119
- Global Positioning Systems, 31–32
- government investment, 80
- government revenues, 78, 79
- hazardous materials, 124, 127
- injuries, 85
- international, 5, 42, 51
- labor productivity, 6, 76, 77
- long-distance travel, 2, 4–5, 6, 13, 15, 22, 25, 37, 40, 57–59, 125–127
- passenger transportation, 2, 4–5, 6, 13, 15, 22, 25, 37, 40, 57–59, 125–127
 - baggage, lost, 5, 58–59, 145
 - commuter, 58, 85
 - passenger-miles, 15, 22, 57, 100
- terrorism, 84, 97
- trends, 2, 5, 85, 89
- see also* Aircraft; Airports; Federal Aviation Administration
- Alabama, 60, 121
- Alaska, 28, 60
- Alcohol and drug abuse
 - accidents, cause of, 8, 88, 94, 95
 - bicycling accidents, 95
 - motor vehicle drivers, 94, 95
 - pedestrian fatalities, 7, 8, 94
- Alcohol fuels, 103, 112–113, 136
- Alternative and replacement fuels, 8, 111–114, 115–116, 117
 - alcohol fuels, 103, 112–113, 136
 - data needs, 135–136
 - natural gas, 112, 113, 116
 - reformulated gasoline, 112–113, 135–136
- Alternative vehicles, 8, 112–113, 115–116, 117, 136
- American Public Transit Association, 93
- Americans with Disabilities Act, 59, 61, 63
- American Travel Survey, 10, 26, 38, 42, 148
- Ammonia, 118, 119
- Amtrak, 2, 5, 16, 22, 23, 24, 64–65, 109
- Arizona, 5
- Army Corps of Engineers, *see* U.S. Army Corps of Engineers
- Arterial roads, 14, 17, 18, 19, 54, 56
- Asia
 - economic decline, 48–49, 110–111
 - motor vehicle fatalities, 99
 - passenger travel to, 42
 - trade with, 4, 48, 50–51
 - see also specific countries*
- Asians/Pacific Islanders, 41
- ATS, *see* American Travel Survey
- Aviation, *see* Air transportation
- B**
 - Baltimore, Maryland, 2, 26, 52, 60
 - Barges, 26, 27, 133
 - Batteries, 113, 131, 134, 138, 138
 - Bicycling, 4, 7, 37, 83, 84, 86, 87, 91, 93, 95–96
 - Biennial Reporting System on Hazardous Waste, 126
 - Black persons, *see* African-Americans
 - Boats, *see* Ferries; Recreational boating; Vessels
 - Bridges, 1, 17, 20, 33, 137
 - Buffalo-Niagara Falls, New York, 53, 126
 - Bureau of the Census
 - American Travel Survey, 10, 26, 38, 42, 148
 - Commodity Flow Survey, 3–4, 14, 42–49
 - government revenues, 78 (n. 2)
 - international trade, 147
 - National Travel Survey, 36
 - Motor Freight Transportation and Warehousing Survey, 68
 - Bureau of Economic Analysis, 68
 - Bureau of Labor Statistics, 75
 - Bureau of Transportation Statistics, 143, 144
 - American Travel Survey, 10, 26, 38, 42, 148
 - capital stock assessments, 81
 - Commodity Flow Survey, 3–4, 14, 42–49
 - National Transportation Atlas Database, 10, 146–148
 - statistical practices, general, 11, 143
 - Transportation Equity Act for the 21st Century, 10, 144, 146, 147, 148
 - Transportation Satellite Accounts, 6, 68
 - waterborne transportation, 27
 - Buses
 - accidents, 83, 84, 86, 87, 88, 91, 92–93
 - bus lanes, 3, 29, 30
 - child safety, 84, 88, 92–93

- costs to passengers, 37
- disabled persons, 63
- economic indices, 37, 59, 62
- employment, 6, 75, 76, 77
- energy use, 105, 136
- fatalities, 86, 87, 91, 92
- foreign countries, 84
- injuries, 86, 87
- labor productivity, 76, 77
- long-distance travel, 5, 37, 38
- number and use, 3, 5, 15, 16, 18, 21, 29, 37, 59
- revenues, 59
- route-miles, 29, 30
- school bus safety, 83, 88, 91, 92–93
- socioeconomic status of riders, 37
- urban areas, 16, 29, 37
- Business travel, 38, 40, 146
 - see also* Commuter rail transportation;
 - Commuter travel

C

- California
 - freight, 52
 - high-speed rail transportation, 23
 - Los Angeles, 23, 50, 51, 52, 60
 - San Francisco, 23, 51, 60, 127
 - zero emission vehicles, 113
- Canada, 4
 - freight, 49, 50, 51–52, 53, 147
 - high-speed rail, 23
 - North American Free Trade Agreement, 52
 - passenger travel, 23, 42
- Capital investment, 7, 69, 80
 - GDP, 69
 - labor productivity, 76
 - national accounts, 81
 - see also* Government investment
- Capital stock, 80–81
- Carbon dioxide, 9, 104, 115–116, 116, 122
- Carbon monoxide, 9, 104, 115–116, 118, 119, 120, 122, 128, 130
- Cargo, *see* Freight transportation
- Caribbean, passenger travel to, 42
- Carpooling, 3, 29, 39, 57, 86, 116
 - See also* vanpooling
- Cartography, *see* Maps and mapping
- Census Bureau, *see* Bureau of the Census
- CFCs, *see* Chlorofluorocarbons

- CFS, *see* Commodity Flow Survey
- Charleston, South Carolina, 51, 52, 60
- Chemical and allied products
 - freight, 47, 62, 64
 - toxic pollutants, 9, 104, 116, 117, 120, 121–122, 123, 125, 126, 127–130, 133–138 (passim)
- Chicago, Illinois
 - airports, 51, 125–126
 - high-speed rail, 23–24, 32
 - long-distance travel hubs, 23–24
 - waterborne transportation, 60
- Children
 - air bags, 90
 - local travel, 39, 41
 - long-distance travel, 40, 41
 - fatalities, 90, 91, 92, 94
 - pedestrians injured, 94
 - risk exposure, data needs, 100
 - safety, 8, 83–84, 88, 90–93, 100
 - safely traveling to and from school, 93
 - school bus safety, 84, 88, 91, 92–93
 - vans, school transportation, 93
- China, 111
- Chlorofluorocarbons, 9, 117, 122, 133–134
- Cities, *see* Urban areas
- Clean Air Act, 114, 116, 121, 136, 137
- Clean Water Act, 133
- Climate change, *see* Global climate change
- CO, *see* Carbon monoxide
- CO₂, *see* Carbon dioxide
- Coal, freight, 47, 48, 62, 64
- Coast Guard, *see* U.S. Coast Guard
- Coastwise transportation, 25, 26, 59
- Collector roads, 17, 18, 56
- Columbia River, 60
- Commercial transportation,
 - see* Air transportation; Buses; Freight transportation; Railroads; Waterborne transportation
- Commodities, *see* Freight transportation; Long-distance freight transportation; *specific sectors*
- Commodity Flow Survey, 3–4, 14, 42–49
- Communications, *see* Postal services; Telecommunications
- Commuter air carriers, 58, 85
- Commuter rail transportation, 2, 5, 16, 29, 30, 31, 59, 62, 63, 86

- Amtrak, 2, 5, 16, 22, 23, 24, 64–65, 109
- Commuter travel, 3, 38–39
 - air carriers, 58, 85
 - carpools, 3, 29, 39, 57, 86, 116
 - congestion, 5, 10, 53–56, 57, 84
 - ferries, 5, 27, 29, 59, 62
 - time/distance, other than congestion, 38
 - trip chaining, 38
 - vanpools, 3, 29, 86
 - see also* Business travel; Commuter rail transportation
- Computer systems, 3, 13, 31–32
 - intelligent transportation systems, 3, 31, 32, 33, 148
 - Internet, 104
 - rail transportation, 31, 32
 - terrorism, 97
 - see also* Databases
- Congestion, 5, 10, 53–56, 57, 84
 - carpooling, 3, 29, 39, 57, 86, 116
- Conservation, *see* Alternative and replacement fuels; Environment
- Construction sector
 - airports, 10
 - highway construction, environmental impacts, 131, 137
- Consumer expenditures on transportation, 5, 6, 67, 68–73
 - demographic factors, 72–73
 - regional factors, 71–72
 - urban/rural, 6, 72
- Containers and container ports, 2–3, 26, 50–51
- Containerships, 2, 26, 27, 28
- Contaminated materials, *see* Hazardous materials
- Corporate Average Fuel Economy standard, 106, 107
- Corrective Action Measures (database), 127
- Cost and cost-benefit factors
 - air transportation, 37
 - bus transportation, 37
 - data needs, general, 10, 143, 145
 - dredging, 125
 - emission reductions, 104
 - fuel prices, 107, 112
 - hazardous materials spills, 124
 - oil prices, 8, 103, 110–111
 - oil spills, 124
 - passenger transportation, 4, 36–37, 145
 - personal-use vehicles, 36–37
 - road transportation, congestion, 56, 57
 - Transportation Satellite Accounts, 6, 68
- Council for Environmental Quality, 135
- Courier services, 4, 44–45, 46, 48
- Crashes
 - air bags, 88, 90, 134
 - aircraft fatalities, 7, 85, 86, 88, 89
 - alcohol abuse, 88, 94, 95
 - bicyclists, 4, 8, 37, 83, 84, 86, 87, 91, 93, 95–96
 - causes, 8
 - alcohol/drug abuse, 88, 94
 - darkness, 94, 96
 - congestion caused by, 56
 - light trucks, 43, 84, 86, 87, 88, 91, 92–93
 - motor vehicles, 8, 84
 - age factors, 8, 94, 95
 - buses, 83, 84, 86, 87, 88, 91, 92–93
 - light trucks/SUVs, 43, 84, 86, 87, 88, 91, 92–93
 - personal-use, 7, 84, 86, 87, 89, 91, 92
 - trucks, 88
 - property damage, 101
 - protective devices
 - air bags, 88, 90, 134
 - helmets, bicyclists, 96
 - safety belts, 88, 90, 92
 - worldwide data, 98
 - see also* Accidents; Fatalities; Injuries
- Crime, 83, 90, 101
 - terrorism, 83, 84, 96–98
- Criteria and related pollutants, 116, 117, 119–120, 123, 126–127, 130, 138
 - carbon monoxide (CO), 9, 115–116, 118, 119, 120, 122, 128, 130
 - carbon dioxide (CO₂), 9, 115–116, 122
 - nitrogen dioxide (NO₂), 119, 130
 - nitrogen oxides (NO_x), 117, 118, 119, 122, 126, 128, 130
 - sulfur dioxide (SO₂), 117, 119, 123, 128
 - lead, 9, 117, 118, 119, 120, 121, 128
 - volatile organic compounds, 9, 104, 117, 118, 119, 123, 128, 130, 132
- Cruise ships, 16, 25, 26
- Customs Service, *see* U.S. Customs Service

D

Dallas-Fort Worth, Texas, freight, 147

Dams, *see* Locks and dams

Databases

hazardous materials, 124, 127–128

Intermodal Transportation Database, 10, 144, 146

National Transportation Atlas Database, 10, 146–148

oil spills, marine, 124

pipeline safety, 124

rail safety, 32

Toxics Release Inventory, 127–128, 133, 137–138

Data for Decisions, 144

Data needs, 1, 10–11, 32–33, 135–138, 143–148

accidents, 8, 88, 98, 100–101

aircraft, 33, 107

airports, 33, 126

air toxics, 116, 136–137

alternative and replacement fuels, 135–136

capital stock, 81

congestion, 54, 55, 56

cost factors, 10, 143, 145

demographic factors, risk exposure, 100, 143–144

economic indices, general, 10, 143, 145, 146, 148

employment, wages, 75

energy, 107, 135–136, 146

environment, 10, 116–117, 126, 136–138, 143, 146

fatalities, 100–101

freight, 43, 46, 48, 50, 145–146

geographic factors, 3, 10, 11, 144

hazardous air pollutants, 116, 136–137

hazardous materials, general, 127–128, 137

highways, 33, 88

intelligent transportation systems, 33, 148

international, safety data, 8, 84, 97, 98–100

international trade, 10, 11, 143, 147

local trips, 36

long-distance trips, 36

motor vehicles, 3, 8, 32–33

disposal, 138

fuel economy, 107, 135

noise pollution, 116–117, 137

passenger transportation, 36, 144, 145–146

pipelines, 3, 8, 32, 100

privacy, 148

rail transportation, 88, 132

risk exposure, 7–8, 100, 143–144

safety, 8, 10, 11, 146, 148

accidents, 8, 88, 98, 100–101

risk exposure, 8, 100, 143–144

standards, 136, 137, 138

transit, 3, 32–33, 107

Transportation Equity Act for the 21st Century, 10, 144, 146, 147, 148

trucking, 136

vehicles, 3, 32–33, 107; *see* “motor vehicles” *supra*

waterborne transportation, 11, 33, 100

water pollution, 116–117

wildlife, 116–117

Defense, *see* National security

Deicing/anti-icing, 127

Delaware River, 60

Demographic factors

consumer spending, 72–73

data needs, risk exposure, 100, 143–144

fatalities, bicyclists and pedestrians, 93

marital status, 39, 40

Nationwide Personal Transportation Survey, 88 (n. 2), 93

passenger travel, 37, 38

race/ethnicity, 39–41, 143–144

transit, 29

see also Age factors; Households; Rural areas; Socioeconomic status; Urban areas

Departments of U.S. Government, *see headings beginning* “U.S. Department of...”

Detroit, Michigan

freight, 53, 60

high-speed rail, 23, 32

waterborne transportation, 60

Developing countries, safety, 98–100

Diesel fuel, 117, 119, 120

Disabled persons, transit services, 31, 53, 59–60, 63

District of Columbia,

airports, 126–127

high-speed rail, 23, 24

Dredging, 9, 125, 137

Drivers' licenses, *see* Licenses and licensing

Drug abuse, *see* Alcohol and drug abuse

Dulles Airport, 126–127

E

Eastern U.S., oceanborne international trade, 4, 50, 51
see also specific states

Economic factors, 1, 4, 5–8, 67–82
 Asia, 8, 48–49, 110–111
 capital investment, 1, 7, 69, 76, 80, 81
 for-hire transportation, 6, 68
 freight, 44–48 (*passim*)
 GDP, 4, 44, 45, 48, 68
 international, 4, 10, 44, 48–53
 revenues, 2, 6, 21, 61–62
 gasoline, 8, 69, 72, 111
 fuel economy, 8, 104, 105–109, 115, 135
 GDP, 5–6, 67–71, 148
 energy use, 105
 freight transportation, 4, 44, 45, 48, 68
 international trade, 4
 transportation-related final demand, 5–6, 67–68, 69, 78
 globalization, 10, 144, 147
 global warming, 114
 in-house transportation, 6, 68
 international trade indices, 4, 5–6, 48–49
 Japan, 111
 labor productivity, 6, 53, 64, 76–77
 oil imports, 8, 104, 109–111
 passenger transportation indices, 39–42, 88 (n. 2), 144
 productivity, 5, 10, 53, 64, 67, 74, 76–77
 property damage, 8, 53, 61, 100, 101, 124, 146
 rail transportation indices, 2, 6, 21, 61–65
 Russia, 110
 transportation expenditures, 5, 6
 capital investment, 1, 7, 69, 76, 80, 81
 consumer expenditures on transportation, 5, 6, 67, 68–73
 government expenditures, 5, 7, 23, 67, 69, 78, 79–81, 145
 transportation-related final demand, 5–6, 67–68, 69, 78
 transportation revenues,
 air transportation, passengers, 57
 buses, 59
 government revenues, 5, 6–7, 67, 78–79
 rail freight, 2, 6, 21, 61–62
 rail, passenger, 59
 transit, 59, 61, 62

Transportation Satellite Accounts, 6, 68
 trucking, general, 14, 44, 45, 46, 68
 value-added, general, 44, 68
 wages and salaries, 74, 75
see also Cost and cost-benefit factors;
 Employment; International trade;
 Socioeconomic status; *specific sectors*

EIA, *see* Energy Information Agency

Elderly persons
 fatalities, 7, 94
 local travel, 39, 41
 long-distance travel, 40, 41
 motor vehicle drivers, 7
 pedestrians, 7, 94
 risk exposure, data needs, 100

Electric vehicles, 113, 116, 136

El Paso, Texas, 53

Emergency medical services, *see* Medical services

Emission controls, 8–9, 10, 104, 113–114, 115–116, 121, 132

Employment, 67, 73–76
 air transportation, 6, 15, 73, 75, 76, 77
 bus transportation, 6, 75, 76, 77
 business travel, 38, 40, 146; *see also*
 Commuter travel
 data needs, wages, 75
 for-hire transportation, 6, 73–74
 freight, 45
 trucking, 6, 73–74, 75, 76, 77
 warehousing, 6, 73–74
 labor force participation, 4, 37, 74
 labor productivity, 5, 6, 53, 64, 67, 74, 76–77
 local travel, 73, 74; *see also* Commuter travel
 motor vehicle operators, general, 75; *see*
 “bus transportation” *supra*
 by mode/occupation, 73, 75
 passenger travel, increases in, 37
 pipelines, 73, 74, 76, 77
 rail transportation, 16, 21, 73, 74, 75, 76
 service industries, general, 73, 74
 transit, 16, 75, 76, 77
 trip purpose, 38; *see also* Business travel
 trucking, 6, 73–74, 75, 76, 77
 wages and salaries, 74, 75
 warehousing, 6, 73–74
 waterborne transportation, 73, 75

Energy Information Administration, 104 (n. 1), 111

Energy resources *see* Coal; Natural gas; Oil
 Energy use/efficiency, 1, 8, 54
 aircraft, 107, 109
 congestion, 56, 57
 data needs, 107, 135–136, 146
 fuel economy standards, 8, 56, 105, 106, 107
 light trucks, 8, 105, 106–107, 109, 135
 motor vehicles, general, 8, 56, 57, 104, 105–109, 115, 135
 personal-use vehicles, 8, 56, 57, 104, 105–107, 109
 technological innovations, 8, 104, 107
 trucks, 105, 106–107, 136
see also Alternative and replacement fuels; Diesel fuel; Gasoline
 Environment, 1, 8–10, 104, 116–135, 136–138
 airports, general, 9, 127, 137
 data needs, 10, 116–117, 126, 136–138, 143, 146
 habitat, 9, 125, 116–117
 highway construction, 131, 137
 sediment, dredged, 9, 125, 137
 transit, 116
 transportation infrastructure development
 impacts, 9, 124–127, 131, 137
see also Air pollution; Air quality; Hazardous materials; Noise; Pollution; Waste materials
 Environmental Protection Agency
 airport deicing, 127
 air quality, 8, 9, 117, 119
 CFCs, 122
 criteria and related pollutants, 116, 117, 119–120, 123, 126, 127–130, 138
 toxic pollutants, 120–122, 126, 127–130
 gasoline, evaporative emissions, 9, 132
 highway and bridge construction debris, 137
 National Emission Trends, 117, 120, 126–127, 132, 136, 137
 National Toxics Inventory, 120, 128, 136–137
 noise, 123
 oil and gas pipeline emissions, 122–123
 pipelines, 137
 toxics, 120–122, 126, 127–130, 132, 133, 135
 National Toxics Inventory, 120, 128, 136–137
 Toxics Release Inventory, 127–128, 133, 137–138

transportation equipment cleaning, 133
 underground storage tanks, 127, 132–133
 vessel dismantling, 135

Ethanol, 112, 116

Europe

 air freight, 51
 passenger travel to, 42
 road safety, 98

see also specific countries

Expenditures, *see* Consumer transportation expenditures; Cost and cost-benefit factors; Transportation expenditures

Exports and imports, *see* International transportation; International trade

F

Fatalities, 7–8

 age factors, 7, 90, 91, 92, 94
 air transportation, 7–8, 84, 85, 86, 88, 89
 bicyclists, 8, 84, 93, 94, 95
 bus accidents, 86, 87, 91, 92
 causes,
 alcohol/drug abuse, 8, 88, 94, 95
 age factors, 7, 94, 95
 bicycling, 95, 96
 darkness, 94, 96
 motor vehicle/pedestrian, 8, 94, 95
 children, 90, 91, 92, 94
 data needs, 100–101
 developing countries, 98–99
 DOT policy, 7, 83
 elderly persons, 7, 94
 gender factors, 98–99
 highways, 84, 85, 87, 88; *see also “motor vehicles” infra*
 international data, by country, 99
 by mode, 7–8, 85–88, 89, 91
 by occupant/nonoccupant category, 87
 motor vehicles, 7–8, 85, 86, 93, 94
 bicyclists struck by, 7, 8, 83, 84, 86, 91, 93, 94
 causes, 7, 8, 94, 95
 developing countries, 99
 light trucks, 7, 84, 86, 87, 89, 91, 93
 motorcyclists, 84, 87, 88, 89, 91
 pedestrians, 7–8, 84, 86, 93, 94
 personal-use vehicles, 7, 84, 86, 87, 89, 91, 92
 pipelines, 8, 85, 100, 124, 137
 recreational boating, 84, 85, 86

- safety belts, 88
- terrorism, 97
- transit, 84, 85, 86, 91, 93, 100
- trends, 84, 85, 87, 89, 94, 95, 97
- trucks, 7, 86, 87, 88, 89, 91
- U.S. totals, 7, 85–86 (*passim*), 99
- world totals, 98–99
- Federal Aviation Administration, 22, 25, 97, 122, 123, 137
- Federal Energy Regulatory Commission, 27 (n. 6), 43
- Federal government, 148
 - expenditures, 7, 23, 69, 78, 79, 80, 81
 - grants to state and local governments, 7, 79, 80
 - high-speed rail transportation, 23
 - intelligent transportation systems, 31
 - revenues, 6–7, 78
 - terrorism, response, 97–98
 - transit, subsidized, 3, 5, 29, 31
 - see also* Legislation; Standards; *specific departments and agencies*
- Federal Highway Administration, 10, 14, 54, 55, 56, 148
- Federal Railroad Administration, 32
- Federal Transit Administration, 3, 29, 32
- Ferries, 5, 27, 29, 59, 62
- Florida, waterborne transportation, 60
- Foreign countries, *see terms beginning "International..."; specific countries*
- Foreign trade, *see* International trade
- For-hire transportation
 - economic value, 6, 68
 - employment, 6, 73–74
 - rented vehicles, 84
 - trucks, 4, 6, 45, 46, 68
- France, 49
- Freeways, *see* Interstate Highway System
- Freight transportation, 42–53
 - agricultural products, 52
 - aircraft, shipments of, 52
 - air transportation, 2–4, 6, 15, 22, 44, 50, 51, 53, 124, 127
 - Canada, 49, 50, 51–52, 53, 147
 - chemical and allied products, 47, 62, 64
 - classification, standards, 43, 46, 48
 - coal, 47, 48, 62, 64
 - containers and container ports, 2–3, 26, 50–51
 - containerships, 2, 26, 27, 28
 - by commodity, 43, 46–48
 - Commodity Flow Survey, 3–4, 14, 42–49
 - data needs, 43, 46, 48, 50, 145–146
 - distance factors, 46, 47
 - domestic, 3–4, 10, 14, 15, 16, 42–48
 - economic factors, 44–48 (*passim*)
 - GDP, 4, 44, 45, 48, 68
 - international, 4, 10, 44, 48–53
 - revenues, 2, 6, 21, 61–62
 - employment, 45
 - trucking, 6, 73–74, 75, 76, 77
 - warehousing, 6, 73–74
 - gasoline, shipments of, 47, 48
 - gateways, 52, 53, 54, 55, 147
 - geographic factors, 44, 48
 - GDP, 4, 44, 45, 48, 68
 - international, *see* International freight shipments
 - local vs long-haul, 46, 47
 - manufactured goods, international freight, 4, 48, 49–53
 - by mode, 44, 51
 - motor vehicle shipments, 52, 62, 64, 128
 - rail, 2, 4, 5, 16, 21–22, 44, 46, 47, 48, 50, 51, 52, 53, 61–64
 - regional factors, 2, 46
 - revenues, 2, 6, 21, 61–62
 - shipment size (weight), 48, 49
 - state-level factors, 52, 53
 - interstate transportation, 62, 64
 - terrorism, 98
 - tonnage, 52
 - U.S. totals, 3–4, 13–14, 16, 25, 28, 42, 44–50 (*passim*), 59, 60
 - see also* Ton-miles (freight)
 - waterborne, 2, 4, 25–27, 44, 50, 51, 52, 53, 59
 - barges, 26, 27, 133
 - international, 2, 4, 25, 28, 50–51
 - tankers, 26, 27, 28, 43
 - oil spills, 9, 104, 123–124
 - ton-miles, 4, 16, 44, 46
 - wholesale/retail trade, 44, 45
 - see also* Long-distance freight transportation; Trucks and trucking
- FHWA, *see* Federal Highway Administration

G

Gas, *see* Natural gas

Gasoline, 103

air pollution, 10, 117, 119–120, 121

evaporative emissions, 10, 132

economic indices, 8, 69, 72, 111; *see* “fuel economy” *infra*

freight shipments of, 47, 48

fuel economy, 8, 9, 104, 105–109, 115, 135

reformulated, 112–113, 135–136

taxes, 7, 78, 135

underground storage tanks, 10, 132–133
see also Alternative and replacement fuels

GDP, *see* Gross Domestic Product

Gender factors

local trips, 38, 39

long-distance travel, 40

passenger mobility patterns, 39–40

road accidents, injuries and fatalities, 98–99

General Accounting Office, *see* U.S. General Accounting Office

General aviation, 2, 15, 22, 25, 84, 85, 86, 88, 89, 100, 119

Global Positioning Systems, 3, 31–32

Geographic factors

data needs, 3, 10, 11, 144

freight, 44, 48

international trade, domestic transportation
of, 10, 44, 143, 147

long-distance travel, 42

oil, geopolitical factors, 109–110

passenger travel, 41–42

transit, 59

see also Maps and mapping; Regional factors;
Rural areas; Suburban areas; Urban
areas; *specific regions*

Geographic information systems, 3

Georgia, high-speed rail, 24

Germany, 28, 49

Global climate change, 9, 104, 114–116

Global Positioning Systems, 3, 31–32, 98, 114

Government expenditures, 5, 7, 67, 69, 78, 79–81, 145

federal, 7, 23, 69, 78, 79, 80, 81

local, 7, 69, 79, 80, 81

state, 7, 69, 79, 80, 81

Government investment, 80–81

Government Performance and Results Act, 144

Government revenues, 5, 6–7, 67, 78–79

federal, 7, 78

highways, 7, 78, 79

inflation, impact on, 78

local, 7, 78–79

by mode, 78, 79

state, 7, 78–79, 80, 135

taxes, 7, 78–79, 135

waterborne transportation, 78–79

Government role, *see* Federal government;

Local government; State government

GPRA, *see* Government Performance and
Results Act

Great Lakes, 16, 28, 59

ports, 2, 16, 25, 26, 125

Greece, 28

Greenhouse gases, 8, 104, 114–116

Kyoto Protocol, 8, 114

see also specific gases

Gross Domestic Product, 5–6, 67–71, 148

energy use, 105

freight transportation, 4, 44, 45, 48, 68

international trade, 4, 69

motor vehicles, 69

transportation-related final demand, 5–6,
67–68, 69, 78

Gulf ports, 50, 51

H

Habitat, *see* Wildlife

Handicapped persons, *see* Disabled persons

Harbors and ports, *see* Ports; *specific cities*

Hawaii, 60, 121

Hazardous air pollutants, 9, 104, 116, 121–122,
123, 130–131, 136–137

Hazardous materials, 10, 104, 116–117,
126–127

air transportation, 124, 127

costs of spills, 124

databases, 124, 127–128

data needs, 127–128, 137

dredged sediment, 9, 125, 137

pipeline accidents/injuries/fatalities, 85, 124

rail transportation, 124, 132

road transportation spills, 9, 124

spills, 123–124

standards, 130–131

state government, 127, 132, 133

state-level trends, 120–121

storage tanks, leakage, 10, 127, 132–133

- vehicle and parts manufacturing, 127–130, 137–138
 - vehicle disposal, 133–134, 138
 - waterborne transportation, 124
 - vessel dismantling, 134–135
 - see also* Hazardous air pollutants; Toxic pollutants
 - Hazardous Materials Information System, 124, 127
 - Helmets, bicyclists, 96
 - HFCs, *see* Hydrofluorocarbons
 - High-speed rail transportation, 14, 22, 23–24, 32
 - Highway Performance Monitoring System, 54
 - Highways, 14, 15, 17–20
 - accidents, 85
 - bridges, 1, 17, 20
 - collector, 17, 18, 56
 - condition and performance, 1, 14, 17, 18–19, 21, 33
 - developing countries, 99, 100
 - construction and materials, environmental impacts, 131, 137
 - data needs, 33, 88
 - extent and use, 14, 15, 17
 - fatalities, 7, 84, 85, 87, 88; *see also* “motor vehicles” under Fatalities
 - FHWA, 10, 14, 54, 55, 56, 148
 - government investment, 81
 - government revenues, 78, 79
 - government spending, 7, 80
 - injuries, 85; *see also* “motor vehicles” under Injuries
 - intelligent transportation systems, 31
 - Interstate Highway System, 14, 15, 17, 18, 19, 54, 56
 - rail crossings, 23, 31
 - rural, 14, 17, 19, 21
 - vehicle-miles traveled, 5, 54, 56
 - urban, 3, 5, 14, 15, 17, 18, 19, 21, 54–56
 - see also* Motor vehicles; Trucks and trucking
 - Highway Trust Fund, 7
 - Highway vehicles
 - asphalt and concrete, manufacturing emissions, 131
 - energy consumption, 104, 105–106
 - fatalities, 7, 84, 85, 87, 88
 - hazardous materials spills, 9, 124
 - number and use, 1–2, 15, 17–18, 21
 - vehicle-miles traveled, 15, 54
 - see also* Motor vehicles; Trucks and trucking
 - Hispanics
 - local travel, 39, 41
 - long-distance travel, 40, 41
 - Hong Kong, 99
 - Households, 5, 6
 - consumer spending, general, 68, 71–73
 - income, 37, 39, 40–42, 68
 - motor vehicle ownership, 18, 20, 37
 - passenger travel, 37, 39, 40–41
 - trip chaining, 38
 - Houston, Texas, 5, 51, 52, 55
 - Hydrofluorocarbons (HFCs), 122, 138
- I**
- Icing, aircraft, *see* Deicing/anti-icing
 - Illinois, 32, 52
 - see also* Chicago, Illinois
 - Imports and exports, *see* International transportation; International trade
 - Income, *see* Socioeconomic status
 - Incremental Train Control System, 32
 - Indiana, 52, 60
 - Information technology, *see* Computer systems
 - In-house transportation, 6, 68
 - Injuries, 83
 - air bags, causing, 90
 - air transportation, 85
 - bicyclists, 94, 95
 - data needs, 8, 10, 100, 146
 - elderly persons, 94
 - gender factors, 98–99
 - medical services, 88, 95, 97
 - by mode, 86, 87
 - motor vehicles, 84, 94
 - air bags, 90
 - pedestrians, 94
 - rail transportation, 85
 - transit, 85
 - trucks, 7, 86, 87, 88, 89, 91
 - U.S. totals, 85, 87
 - worldwide totals, 98–99
 - see also* Fatalities
 - Inland waterways
 - condition and performance, 59
 - dredging, 9, 125, 137
 - extent and use, 2, 16, 25, 59
 - fuel tax, 78–79

- locks and dams, 25, 59
 - recreation and tourism, 25
 - see also* Great Lakes; Ports; Vessels
 - Integrated Pipeline Information System, 124
 - Integrated Urban Toxics Strategy, 121–122
 - Intelligent transportation systems, 3, 14, 31, 32, 33, 148
 - Intermodal/multimodal transportation, 2, 25–26, 43–44, 50, 53, 62, 64
 - containers and container ports, 2–3, 26, 50–51
 - containerships, 2, 26, 27, 28
 - database, 10, 144, 146
 - data needs, 144, 146, 147
 - Intermodal Surface Transportation Efficiency Act (ISTEA), 23, 144
 - Intermodal Transportation Database, 10, 144, 146
 - International agreements
 - greenhouse gases, Kyoto Protocol, 8, 114
 - Marine Pollution Convention, 125
 - North American Free Trade Agreement, 52
 - ozone layer depletion, 138
 - International Federation of Red Cross and Red Crescent Societies, 98
 - International freight shipments, 10, 25, 48–53
 - air, 50, 51
 - by country, 49
 - data needs, 50
 - domestic activity and, 10, 44, 143, 147
 - gateways, 52, 53, 54, 55, 147
 - by mode, 51
 - ports, 50–51, 52, 53, 54, 55, 147
 - rail, 50, 51, 52
 - trucking, 51, 52, 53
 - value of goods, 49–50
 - U.S. merchandise trade, 4, 48, 49–53
 - waterborne, 4, 25, 28, 50–51
 - International long-distance trips, 4–5, 42
 - International perspectives
 - aircraft noise, 123
 - developing countries, safety, 98–100
 - global climate change, 8, 104, 114–116
 - safety, 7–8, 84, 97, 98–100
 - terrorism, 97
 - International Roughness Index, 14
 - International trade, 4, 48–53
 - Asia, 4, 48, 50–51; *see also specific countries*
 - container ports, 2, 26, 50–51
 - data needs, 10, 50, 143, 147
 - domestic transportation of, 10, 44, 143, 147
 - eastern U.S., 50, 51
 - economic indices, general, 5–6, 48–49
 - GDP and, 4, 69
 - globalization, 10, 144, 147
 - motor vehicles, 6, 52, 128
 - North American Free Trade Agreement, 52
 - oil, 8, 104, 109–111
 - Pacific Rim, 4, 48, 50–51
 - U.S. Customs Service, 147
 - U.S. merchandise trade, 4, 48, 49–53
 - see also specific countries*
 - International transportation
 - air transportation, 5, 42, 51
 - freight, *see* International freight shipments
 - gateways, 52, 53, 54, 55, 147
 - U.S. Customs Service, 147
 - waterborne, 2, 4, 25, 28, 50–51
 - Internet, 104
 - Interregional freight transportation, 46
 - Interstate freight transportation, 62, 64
 - Interstate Highway System
 - condition, 14, 17, 18, 19
 - extent and use, 15, 54, 56
 - Intoxication, *see* Alcohol and drug abuse
 - Intraregional freight transportation, 46
 - Investment, *see* Capital investment
 - ISTEA, *see* Intermodal Surface Transportation Efficiency Act (ISTEA)
 - ITS, *see* Intelligent transportation systems
- J**
- Japan, 28, 49, 51, 84, 99, 111
- K**
- Kennedy International Airport, 51, 53
 - Kyoto Protocol, 8, 114
- L**
- Labor, *see* Employment; Productivity
 - Laredo, Texas, 53
 - Lead, 9, 117, 118, 119, 120, 121, 128, 134
 - Leaking underground storage tanks, 10, 127, 132–133
 - Legislation
 - Americans with Disabilities Act, 59, 61, 63
 - Clean Air Act, 114, 116, 121, 136, 137
 - Clean Water Act, 133
 - Kyoto Protocol, congressional approval, 114

- Government Performance and Results Act, 144
- Intermodal Surface Transportation Efficiency Act (ISTEA), 23, 144
- Rail Passenger Service Act, 22
- Transportation Equity Act for the 21st Century (TEA-21), 10, 23, 83–84, 144, 146, 147, 148
- Leisure, *see* Recreational activities; Recreational boating
- Licenses and licensing, drivers
 - developing countries, driver training, 100
 - number of, 37
- Light trucks
 - accidents, 43, 84, 86, 87, 88, 91, 92–93
 - data needs, 135
 - energy efficiency, 8, 105, 106–107, 109, 135
 - injuries/fatalities, 7, 84, 86, 87, 89, 91, 93
 - number and use, 1–2, 8, 15, 106–107, 108
 - pollutants released during manufacturing, 131
 - sport utility vehicles, 1–2, 17, 84, 91, 105, 108
- Liquefied petroleum gas, 111–112
- Local government, 7, 38, 69, 78–79, 80, 81
- Local roads
 - bridges, 17
 - vehicle-miles traveled, 56
- Local travel, 4, 13, 35–37
 - African-Americans, 39
 - age factors, 39, 41
 - defined, 35
 - employment, 73, 74; *see also* Commuter travel
 - gender factors, 38, 39
 - household income, 37, 41–42
 - by mode, 37
 - passenger-miles, 35–36, 37, 41
 - purpose, 38; *see also* Commuter travel
 - rail, 2, 16, 37; *see also* Commuter rail transportation
 - trip chaining, 38
 - walking as a form of transportation, 4, 8, 37, 84, 90, 91, 93–95; *see also* Pedestrians
- Locks and dams, 25, 59
- Long Beach, California
 - international freight, 50–51
 - port facilities, 2, 26, 50–51, 52, 60
- Long-distance freight transportation, 46
 - agricultural products,
 - air, 2, 4, 6, 15, 22, 44, 50, 51, 53, 124, 127
 - Canada, 49, 50, 51–52, 53, 147
 - chemical and allied products, 47, 62, 64
 - coal, 47, 48, 62, 64
 - containers and container ports, 2, 26, 50–51
 - containerships, 2, 26, 27, 28
 - by commodity, 47
 - economic factors, 4, 10, 44, 48–53
 - international; *see* International freight shipments
 - interstate, 62, 64
 - manufactured goods, 48, 49, 52
 - Mexico, 49, 50, 51–52, 53, 147
 - minerals, 47, 48, 64
 - by mode, 44, 51
 - rail, 44
 - ton-miles, 15, 44, 46, 51, 62, 64
 - see also* Commodity Flow Survey
 - Long-distance travel (trips), 4, 13, 35
 - African-Americans, 40
 - age factors, 40, 41
 - air transportation, 2, 4, 6, 13, 15, 22, 25, 37, 40, 57–59, 125–127
 - American Travel Survey, 38, 42
 - buses, 5, 37, 38
 - business, 38, 40
 - children, 40, 41
 - cost factors, 37
 - domestic, 36
 - elderly persons, 40, 41
 - extent of, 35, 36, 38, 40, 41
 - gender factors, 40
 - geographic factors, 42
 - Hispanics, 40, 41
 - income factors, *see* “socioeconomic status” *infra*
 - international, 42
 - by mode, 37
 - Nationwide Personal Transportation Survey, 38
 - personal-use vehicles, 36–37, 40
 - purpose of, 38, 40
 - race/ethnicity, 40, 41
 - rail transportation, 5, 37, 38
 - socioeconomic status, 40, 41
 - trends, 35, 36
 - Los Angeles, California

- airports, 51
- high-speed rail, 23
- waterborne transportation, 50, 51, 52, 60
- Louisiana, 51, 60
- LPG, *see* Liquefied petroleum gas
- Lumber and wood products
 - alcohol fuels, 113
 - freight shipments, 47
 - international trade, 52

M

- Mail, *see* Postal services
- Maintenance and repair, pollutant emissions, 131–133
- Manufactured goods, 47
 - international freight, 4, 48, 49, 52
 - U.S. merchandise trade, 48, 49, 49–53
 - vehicles and vehicle parts, pollutants, 10, 117, 127–131, 137–138
- Maps and mapping
 - airports, enplanements, 58
 - freight
 - gateways, 55
 - rail networks, 63
 - ports, 54, 60
 - high-speed rail corridors, 24
 - transit markets, 61
- Marine Pollution Convention, 125
- Marine vessels
 - containerships, 2, 26, 27, 28
 - cruise ships, 16, 25, 26
 - dismantling, 134–135
 - recreational boats, 2, 16, 25, 84, 85, 86, 129, 131
 - tankers, 26, 27, 28, 43
 - oil spills, 9, 104, 123–124
- Maritime Administration, 27, 28, 134–135
- Maritime transportation, 2, 4
 - accidents, 84, 85, 86
 - coastwise transportation, 25, 26, 59
 - cruise ships, 16, 25, 26
 - data needs, 11
 - extent and use, 2, 16, 25–27
 - freight, 2, 4, 25–27, 44, 50, 51, 52, 53, 59
 - containers and container ports, 2–3, 26, 50–51
 - containerships, 2, 26, 27, 28
 - tankers, 26, 27, 28, 43
 - oil spills, 9, 104, 123–124

- see also* Ports; Vessels
- Maryland, 2
- Massachusetts, 60
- Mass transit, *see* Transit
- Medical services
 - accidental injuries, 88, 95
 - terrorism, 97
- Men, *see* Gender factors
- Methane, 114
- Methanol, 112–113
- Mexico, 4
 - freight, 49, 50, 51–52, 53, 147
 - North American Free Trade Agreement, 52
 - passenger travel, 42
- Miami, Florida, international freight, 52, 60
- Michigan
 - freight, 52, 53, 60
 - high-speed rail, 23, 32
 - waterborne transportation, 60
- Mid-range travel (trips), 11
- Midwest U.S.
 - consumer spending, 71
 - high-speed rail, 23
 - see also specific states*
- Minerals and mining, 47, 48, 64
 - coal, 47, 48, 62, 64
- Minnesota, 60
- Minority groups, *see* Race/ethnicity; *specific groups*
- Missouri, 60
- Mobility
 - database on, 10
 - factors associated with, 39–42
- Modified Marine Safety Information System, 124
- Motorcycles, 15, 18, 21, 84, 87, 88, 89, 91, 123
- Motor Freight Transportation and Warehousing Survey, 68
- Motor oil, 134
- Motor vehicles
 - accidents, 7, 84
 - age factors, 7, 94, 95
 - buses, 83, 84, 86, 87, 88, 91, 92–93
 - light trucks/SUVs, 43, 84, 86, 87, 88, 91, 92–93
 - pedestrians, 7, 84, 86, 93, 94, 95, 96
 - personal-use, 84, 86, 87, 89, 91, 92
 - trucks, 88
 - age of vehicle, 20, 31, 33

air bags, 88, 90, 134
 air pollution, 9, 117, 129
 air conditioning (CFCs), 9, 122, 138
 emission controls, 8, 10, 104, 113–114, 115–116, 121, 132
 pollutants released during manufacturing, 128, 129
 standards, 113–114, 115–116, 121
 alcohol/drug abuse by drivers, 94, 95
 alternative vehicles, 8, 112–113, 115–116
 availability of, 36–37
 batteries, 113, 131, 134, 138, 138
 consumer spending, 69, 71, 72–73
 data needs, 3, 8, 32–33
 disposal, 138
 fuel economy, 107, 135
 elderly drivers/pedestrians, 8, 94
 electric vehicles, 8, 113, 116, 136
 employment of operators, 75
 bus transportation, 6, 75, 76, 77
 energy consumption/efficiency, 8, 56, 57, 104, 105–109, 115, 135
 fatalities, 7–8, 85, 86, 93, 94
 bicyclists struck by, 8, 83, 84, 86, 91, 93, 94
 causes, 7, 94, 95
 developing countries, 99
 light trucks, 7, 84, 86, 87, 89, 91, 93
 motorcyclists, 84, 87, 88, 89, 91
 pedestrians, 7, 84, 86, 93, 94
 freight, shipment of motor vehicles, 52, 62, 64, 128
 fuel taxes, 7, 78, 135
 GDP, 69
 injuries, 84, 94
 air bags, causing, 90
 pedestrians, 94
 international trade in, 52, 128
 motor oil, maintenance spills, 131
 noise pollution, 9, 123, 137
 number of, 1–2, 13, 15, 17–18, 98, 106–107
 ownership, household, 18, 20, 37
 personal consumption, 6
 pollutants, manufacturing phase, 117, 127–131
 recycling of waste, 133
 safety belts, 88, 90, 92
 taxis, 75, 84, 91

technological innovations, 112–113, 115–116, 117, 136
 vans,
 fuel economy, 109
 number of, 108
 used in school transportation, 93
 vanpooling, 3, 29, 86
 vehicle-miles traveled, 5, 8, 15, 56
 air pollution, 117, 119
 data needs, 100
 fatalities, 7, 84
 by functional class, 56
 personal-use vehicles, 37, 39
see also Buses; Diesel fuel; Gasoline; Highway vehicles; Personal-use vehicles; Road transportation; Trucks and trucking
 Multimodal transportation, *see* Intermodal/multimodal transportation

N

NAFTA, *see* North American Free Trade Agreement
 National Academy of Sciences, 143
 National accounts, 81
 National Airspace Commission, 98
 National Defense Reserve Fleet, 135
 National Emission Trends, 117, 120, 126–127, 132, 136, 137
 National Highway System, 15
 National Highway Traffic Safety Administration, 84, 90, 92
 National Industry-Occupation Employment Matrix, 75
 National Occupant Protection Use Survey, 90
 National Plan of Integrated Airport Systems, 22, 25
 National Railroad Passenger Corporation, *see* Amtrak
 National Research Council, 10
 National security
 government expenditures, 69
 National Defense Reserve Fleet, 135
 oil supply, 104, 109–111
 waterborne transportation, 28
 National Toxics Inventory, 120, 128, 136–137
 National Transportation Atlas Database, 10, 146–148
 National Transportation Safety Board, 92, 93, 124

National Travel Survey, 36
 Nationwide Personal Transportation Survey, 10,
 18, 20, 35, 36, 37, 38, 41, 55, 56–57, 88,
 93, 148
 Natural gas
 as alternative fuel, 112, 113, 116
 energy use, 100
 liquefied petroleum gas, 111–112
 pipelines, 3, 6, 9, 13, 17, 27, 76, 85, 86, 103,
 122–123, 124
 accidents/injuries/fatalities, 8, 85, 86, 124,
 137
 Navigational aids, Global Positioning Systems,
 3, 31–32, 98
 Netherlands, 49, 99
 New Jersey
 freight, 51, 52, 60
 waterborne transportation, 51, 52, 60
 New York City
 airports, 51, 53
 Canadians, trips to,
 high-speed rail, 23
 waterborne transportation, 51, 52, 60
 New York State
 freight, 51, 52, 60
 high-speed rail, 23
 zero emission vehicles, 113–114
 Nitrogen dioxide (NO₂), 119, 130
 Nitrogen oxides (NO_x), 104, 117, 118, 119,
 122, 126, 130
 Nitrous oxide (N₂O), 114
 Noise
 aircraft, 9, 123, 137
 data needs, 116–117, 137
 motor vehicle traffic, 9, 123, 137
 railroad vehicles, 123, 137
 Nonhazardous industrial wastes, 9, 130
 Norfolk, Virginia, 51, 52, 60
 North America, *see* Canada; Mexico; Regional
 factors, *specific U.S. cities and states*
 North American Free Trade Agreement, 52
 North American Interchange on Transportation
 Statistics, 11, 148
 North American Transportation Statistics
 Project, 147
 North Carolina, 24, 52
 Northeast U.S.
 consumer spending, 71–72
 high-speed rail transportation, 23, 24
 see also specific states

O

Oakland, California, 52
 Oak Ridge National Laboratory, 43
 Ocean transportation, *see* Maritime
 transportation
 Office of Pipeline Safety, 27 (n. 6), 124
 O'Hare Airport, 125–126
 Ohio, 52, 60
 Oil, 3, 9, 103
 consumption, 8, 103, 104, 110, 111
 fuel economy standards, 8, 56, 105, 106,
 107
 highway vehicles, 8, 56, 57, 104,
 105–109, 115, 135
 foreign sources, 8, 104, 109–111
 freight, 43, 51; *see also "waterborne
 transportation (tankers)" infra*
 international transportation, 28, 51, 52
 labor productivity, 76, 77
 motor oil, 135
 pipelines, 3, 6, 9, 13, 17, 27, 76, 85, 86, 103,
 122–123, 124
 prices, 103, 104
 spills, 9, 104, 123–124
 Strategic Petroleum Reserve, 104, 110
 supply, 8, 103, 104, 109–111
 waterborne transportation (tankers), 9, 26,
 27, 28, 43, 104, 123–124
 Oil spills, 9, 104, 123–124
 On-time performance, 57, 58
 Oregon, 23, 32
 Organization of Petroleum Exporting Countries,
 109–110
 Otay Mesa, California, 53
 Ozone, ground-level, 120
 Ozone layer, 9, 122, 138
 chlorofluorocarbons, 9, 117, 122, 133–134

P

Pacific Rim, trade with, 4, 48, 50–51
 Pacific states, high-speed rail, 23
 Parcels, *see* Courier services; Postal services
 Parking lots, accidents, 94
 Particulate matter, 117, 118, 119, 120, 125
 Passenger-miles, 4, 6, 7, 76
 air pollutants, 116
 air transportation, 15, 22, 57, 100

- European road transportation, 98
- geographic origin of travelers, 42
- household income, 41
- local travel, 35–36, 37, 41
- long-distance travel, 36, 41
- racial/ethnic factors, 41
- rail transportation, 109
 - by mode, 37
- transit, 3, 5, 16, 59
- U.S. total, 13, 35, 36
- waterborne, 16
- Passenger transportation, 4, 35–42
 - air, 2, 4–5, 6, 13, 15, 22, 25, 37, 40, 57–59, 125–127
 - baggage lost, 5, 58–59, 145
 - commuter, 58, 85
 - passenger-miles, 15, 22, 57, 100
 - business travel, 38, 40, 146
 - Canada, 23, 42
 - Caribbean, 42
 - congestion, 5, 10, 53–56, 57, 84
 - carpooling, 3, 29, 39, 57, 86, 116
 - costs of, 4, 36–37, 145
 - data needs, 36, 144, 145–146
 - distance, *see* Local travel; Long-distance travel (trips); Mid-range travel (trips); Passenger-miles
 - demographic/socioeconomic factors, 39–42, 88 (n. 2), 144
 - economic indices, 39–42, 88 (n. 2), 144
 - energy use and, 104, 105, 107, 109
 - household-related data, 37, 39, 40–41
 - income, 39, 40–41, 68
 - trip chaining, 38
 - Mexico, 42
 - mid-range travel (trips), 11
 - miles of, U.S. total, 13, 35, 36
 - Nationwide Personal Transportation Survey, 10, 18, 20, 35, 36, 37, 38, 41, 44, 56–57, 88, 93
 - purpose, 38
 - rail, 5, 22
 - Amtrak, 2, 5, 16, 22, 23, 24, 64–65, 109
 - commuter rail transportation, 2, 5, 16, 29, 30, 31, 59, 62, 63, 86
 - high-speed rail transportation, 14, 22, 23–24, 32
 - rural areas, 39, 42
 - transit, 3, 32–33
 - school children, 83, 88, 90–93
 - socioeconomic status and, 4, 37
 - local, 38, 39
 - long-distance, 40, 41
 - urban areas, 39, 40, 41–42; *see* “congestion” *supra*
 - waterborne, 16, 25, 26–27
 - cruise ships, 16, 25, 26
 - ferries, 27, 29, 59, 62
 - see also* Buses; Commuter rail transportation; Commuter travel; Local travel; Long-distance travel (trips); Personal-use vehicles; Transit
- Pedalcyclists, *see* Bicyclists
- Pedestrians, 83, 93–95, 100
 - accidents/injuries, 7, 84, 86, 93, 94, 95, 96
 - alcohol abuse by, 8, 94
 - bicycling on sidewalks, 96
 - developing countries, safety, 100
 - elderly, 7, 94
 - fatalities, 7, 8, 84, 86, 93, 94
 - age factors, 8, 94
 - see also* Walking as a form of transportation
- Pennsylvania, 52
- Performance Monitoring System, 59
- Personal-use vehicles, 4, 36–37
 - accidents/fatalities, 84, 86, 87, 89, 91, 92
 - age of motor vehicle, 20, 31, 33
 - air bags, 88, 90, 134
 - availability of, 36–37
 - bicycles, 4, 8, 37, 83, 84, 86, 87, 91, 93, 95–96
 - carpooling, 3, 29, 39, 57, 86, 116
 - child safety, 88, 92
 - cost of, 36–37
 - energy efficiency, 8, 56, 57, 104, 105–107, 109
 - gender factors, 39
 - government revenues, 79
 - households owning, 18, 20, 37
 - injuries, 87
 - long-distance travel, 36–37, 40
 - motorcycles, 15, 18, 21, 84, 87, 88, 89, 91, 123
 - number of, 1–2, 15, 18, 20, 21, 98, 106–107, 108
 - recycling of waste, 133
 - safety, 88, 90
 - trip chaining, 38

- vehicle-miles traveled, 37, 39
- see also* Light trucks
- Petroleum and petroleum products,
 - see* Gasoline; Motor oil; Natural gas; Oil
- Phoenix, Arizona, 5, 55
- Pipelines,
 - accidents/fatalities, 85, 86
 - data needs, 8, 100
 - property damage, 124
 - spills, 124, 137
- air pollution, 8, 9, 122–123
- data needs, 3, 8, 32, 100
- economic indices, 44
- employment, 73, 74, 76, 77
- energy use, 105
- extent, use, and performance, 3, 4, 17, 27, 44, 51
- government revenues, 78
- government spending, 7, 80
- hazardous materials, accidents/injuries/fatalities, 85, 124
- labor productivity, 6, 76, 77
- oil and gas, 3, 6, 9, 13, 17, 27, 76, 85, 86, 103, 122–123, 124
- Police accident reports, 96
- Political factors, foreign oil supply, 8, 104, 110
- Pollution, 116–135, 136–138
 - aircraft
 - airborne emissions, 9, 117, 122, 126
 - icing/deicing agents, 127
 - manufacturing releases, 129, 130–131
 - vehicles and vehicle parts, pollutants, 127–128
 - see also* Air pollution; Air quality; Environment; Hazardous materials; Noise; Solid waste; Toxic pollutants; Waste materials Water pollution
- Polychlorinated biphenyls, 134–135
- Ports
 - condition and performance, 25, 26, 59
 - containers and container ports, 2–3, 26, 50–51
 - cruise ships, 25
 - dredged sediment, 9, 125, 137
 - extent and use, 2, 16, 25–26, 54, 59
 - Great Lakes, 2, 16, 25, 26, 125
 - Gulf ports, 50, 51
 - international freight, 50–51, 52, 53, 54, 55, 147
 - international gateways, 52, 53, 54, 55, 147
 - pollution, 125
 - regional factors, general, 2, 50
 - tonnage handled, 16, 52, 60
 - see also* Airports; *specific cities*
- Postal services, 4, 43, 44, 46, 48
 - U.S. Postal Service, 131
- Present Serviceability Rating, 17
- Presidents Commission on Critical Infrastructure Protection, 97–98
- Productivity, 5, 6, 10, 53, 64, 67, 74, 76–77
- Propane, 111
- Property damage, 8, 53, 61, 100, 101, 124, 146
- Property taxes, 78
- Protective devices, *see* Air bags; Helmets; Seat belts
- Public opinion
 - air transportation, consumer complaints, 5, 58–59
 - Amtrak, 65
 - road transportation, congestion, 57
- Puget Sound, 60
- R**
- Race/ethnicity
 - African-Americans, 39, 40
 - Asians/Pacific Islanders, 41
 - data needs, 143–144
 - Hispanics, 39, 40, 41
 - local travel, 41
 - long-distance travel, 40, 41
- Rail Passenger Service Act, 22
- Railroads, 14
 - accidents, 32, 85
 - Amtrak, 2, 5, 16, 22, 23, 24, 64–65, 109
 - coal freight, 47, 48, 62
 - commuter rail transportation, 5, 16, 29, 30, 31, 59, 62, 63, 86
 - Amtrak, 2, 5, 16, 22, 23, 24, 64–65, 109
 - condition and performance, 21, 61–65
 - data needs, 88, 132
 - disabled persons, 63
 - disposal of infrastructure, 133
 - economic indices, 2, 6, 21, 61–62
 - employment, 16, 21, 73, 74, 75, 76
 - energy use, 105, 109
 - extent and use, 2, 16, 21–22, 61–64
 - fatalities, 84, 85, 86, 88, 100–101

- Federal Railroad Administration, 32
 - fueling emissions, 132
 - freight, 2, 4, 5, 16, 21–22, 44, 46, 47, 48, 50, 51, 52, 53, 61–64
 - ton-miles, 4, 6, 44, 46, 62, 64
 - government spending, 7, 80
 - hazardous materials, 124, 132
 - high-speed rail transportation, 14, 22, 23–24, 32
 - highway crossings, 23, 31
 - injuries, 85
 - information technology, 31, 32
 - intermodal, 62
 - international freight, 50, 51, 52
 - labor productivity, 6, 64, 74
 - long-distance travel, 5, 37, 38
 - noise, 123, 137
 - passenger transportation, 5, 22
 - Amtrak, 2, 5, 16, 22, 23, 24, 64–65, 109
 - commuter rail transportation, 2, 5, 16, 29, 30, 31, 59, 62, 63, 86
 - high-speed rail transportation, 14, 22, 23–24, 32
 - pollutants released during manufacturing, 129
 - regional factors, general, 2, 16
 - safety, 14, 23, 31, 32; *see also* “accidents” *supra*
 - speed, 32; *see* “high-speed rail transportation” *supra*
 - urban, commuter rail transportation, 2, 5, 16, 29, 30, 31, 59, 62, 63, 86
 - Amtrak, 2, 5, 16, 22, 23, 24, 64–65, 109,
 - Rapid transit, *see* Commuter rail transportation
 - Recreational activities
 - bicycling, 93
 - inland waterways, 25
 - purpose for travel, 38
 - Recreational boating
 - accidents/injuries, 85
 - fatalities, 84, 85, 86
 - number of boats, 2, 16, 25
 - pollutants released during manufacturing, 129, 131
 - Recycling of waste, 133–135, 138
 - Reformulated gasoline, 112–113, 135–136
 - Regional factors
 - air transportation, 15
 - consumer spending, 71–72
 - freight transportation, 2, 46
 - high-speed rail transportation, 23
 - ports, 2, 50
 - railroads, 2, 16
 - see also specific regions*
 - Regulations, *see* Standards
 - Repair services, *see* Maintenance and repair
 - Replacement fuels, *see* Alternative and replacement fuels
 - Retail trade, *see* Wholesale/retail trade
 - Revenues, *see* Transportation revenues
 - Rivers, 60
 - see also* Inland waterways
 - Road transportation, 7, 14, 15, 17–20, 54–57
 - arterial roads, 14, 17, 18, 19, 54, 56
 - bridges, 1, 17, 20, 33, 137
 - carpooling, 3, 29, 39, 57, 86, 116
 - collector roads, 17, 18, 56
 - congestion, 5, 10, 53–56, 57, 84
 - freight, *see* Trucks and trucking
 - hazardous materials, 9, 124
 - local roads, 17, 56
 - rural areas, 14, 17, 19, 21
 - vehicle-miles traveled, 5, 54, 56
 - safety
 - international trends, 98–100
 - U.S. trends, 83–87 (passim), 88–96
 - speed and speed limits
 - commuting, 39, 54, 56
 - energy efficiency, 105
 - state investments, 81
 - system mileage, 1, 14, 16, 17
 - see also* Highways; Highway vehicles; Motor vehicles; Vehicle-miles traveled
 - Rural areas
 - commuting speed/congestion, 39, 56, 57
 - consumer spending, 6, 72
 - passenger travel, 39, 42
 - roads and highways, 14, 17, 19, 21
 - vehicle-miles traveled, 5, 54, 56
 - transit, 3, 32–33
 - Russia, 110
- ## S
- Safety, *see* Transportation safety
 - Safety belts, 88, 90, 92
 - San Francisco, California
 - airports, 51, 127
 - high-speed rail, 23

- waterborne transportation, 60
- Satellite accounts, *see* Transportation Satellite Accounts
- School bus safety, 83, 88, 91, 92–93
- Scrap materials, *see* Recycling of waste
- Sea-going shipping, *see* Marine vessels;
- Maritime transportation
- Seat belts, *see* Safety belts
- Seattle, Washington, sea-going freight, 2, 26, 51, 52
- Sediment, dredged, 9–10, 125, 137
- Service industries, general
 - consumer spending on transportation, 73
 - employment, 73, 74
 - freight and, 44
 - value-added, 44
 - vehicle maintenance and repair, pollutant emissions, 131–133
- Ships, *see* Maritime transportation; Vessels
- Short trips, *see* Local travel
- Singapore, 51
- Socioeconomic status
 - bus use, 37
 - consumer spending, general, 68, 71–73
 - freight, 44
 - household income, 39, 40–41, 68
 - passenger travel, 37
 - local, 38, 39
 - long-distance, 40, 41
 - per capita income, 4, 37, 44
 - transportation industry wages and salaries, 74
- Solid waste, 9, 116–117, 127, 129, 130
 - highway and bridge construction debris, 137
 - recycling, 133
 - vehicle disposal, 10, 133–135, 138
- South Carolina, Charleston, 51, 52, 60
- Southern U.S.
 - consumer spending, 6, 71–72
 - high-speed rail, 24
 - see also specific states*
- South Korea, 99, 111
- Speed
 - road transportation, commuting, 39
 - transit, 61
- Sport utility vehicles, 1–2, 17, 84, 91, 105, 108
- Standards
 - air quality,
 - Clean Air Act, 114, 116, 121, 136, 137
 - criteria and related pollutants, 116, 117, 119–120, 123, 126–127, 130, 138
 - electric utilities, 61
 - greenhouse gases, 8, 114
 - motor vehicle emissions, 113–114, 115–116, 121
 - urban, 115–116
 - data needs, 136, 137, 138
 - developing countries, road safety, 100
 - freight classification, 43, 46, 48
 - fuel economy, 8, 56, 105, 106, 107
 - hazardous materials, 130–131
 - leaking underground tanks, 132–133
 - metric/U.S. weights and measures, conversion, 155–156
 - national accounts, 81
 - noise, 123
 - pipeline safety, 124
 - school children, transportation of, 92, 93
 - vehicle manufacturing pollutants, 130–131
- State government, 143
 - expenditures, 7, 69, 79, 80, 81
 - federal grants to, 7, 79, 80
 - hazardous materials leaks, 127, 132, 133
 - investment, road transportation, 81
 - lead-acid battery recycling, 134
 - revenues, 6–7, 78–79, 80, 135
 - safety belt laws, 90
 - vehicle maintenance and repair, pollution controls, 131–132
- State-level factors
 - air toxic pollutants, 120–121
 - freight transportation, 52, 53
 - interstate transportation, 62, 64
 - see also specific states*
- Statistical methodology, 1
 - safety rates, 84, 87
 - see also* Data needs
- St. Lawrence Seaway, 16
- Strategic Petroleum Reserve, 104, 110
- Suburban areas, 39, 41–42, 57
- Sulfur emissions, 117, 119, 123, 128
- System mileage, 13
 - oil and gas pipelines, 3
 - road transportation, 1, 14, 16, 17
 - transit, 3

T

- Tacoma, Washington, 2, 26, 51, 52
- Taiwan, 28, 49, 99, 111
- Tankers, 26, 27, 28, 43
 - oil spills, 9, 104, 123–124
- Taxation
 - inland waterway fuels, 78–79
 - motor vehicle fuels, 7, 78, 135
 - property, 78
- Taxis, 6, 75, 84, 91
- TEA-21, *see* Transportation Equity Act for the 21st Century
- Technological innovations
 - aircraft/airport deicing, 127
 - alternative and replacement fuels, 111–114
 - alternative vehicles, 8, 112–113
 - developing countries, road safety, 100
 - emission controls, 104, 121
 - fuel efficiency, 8, 104, 107
 - Global Positioning Systems, 3, 31–32, 98, 114
 - maritime navigation, 28
 - motor vehicle safety, air bags, 88, 90, 134
 - safety
 - air bags, 88, 90, 134
 - general, 7
- Telecommunications, 13
 - Internet, 104
 - terrorism, 97
- Terrorism, 83, 84, 96–98
- Texas
 - freight, 52, 53
 - Houston, congestion, 5
- Texas Transportation Institute, 5, 55, 56–57
- Tires, safety, 105
- Ton-miles (freight), 6, 76, 148
 - air transportation, 3, 15, 44, 46
 - by commodity, 47, 48
 - growth factors and, 45
 - local vs long-haul, 46
 - by mode, 44, 46, 51
 - intermodal, 43–44
 - long-distance freight, 15, 44, 46, 51, 62, 64
 - oil and gas pipelines, 17
 - pipeline, 44, 46
 - rail, 4, 6, 44, 46, 62, 64
 - by shipment size, 49
 - trucking, 4, 44, 45, 46, 51
 - U.S. total, 3–4, 13–14, 35, 42–43
 - waterborne transportation, 4, 16, 44, 46
- Toxic pollutants, 9, 104, 116, 117, 120–123, 125, 126, 133–135
 - National Toxics Inventory, 120, 128, 136–137
 - vehicle cleaning, 133
 - vehicle maintenance, 131–132
 - vehicle manufacture, 127–130, 137–138
 - Toxics Release Inventory, 127–128, 133, 137–138
 - see also* Hazardous materials
- Toxics Release Inventory, 127–128, 133, 137–138
- Trains, *see* Railroads
- Transit
 - accidents, 84, 85
 - buses, 83, 84, 86, 87, 88, 91, 92–93
 - condition and performance, 31, 53, 59, 61, 62, 63
 - data needs, 3, 32–33, 107
 - demand response, 16, 31, 59, 61, 62, 63, 86
 - disabled persons, 31, 53, 59, 61, 63
 - economic factors, 16, 75, 76, 77
 - government revenues, 59, 61, 62, 79
 - government spending, 3, 59, 61, 62
 - employment, 16, 75, 76, 77
 - energy use, 105
 - environmental factors, 116
 - extent and use, 3, 5, 13, 16, 29–31, 39, 59, 61, 62
 - fatalities, 84, 85, 86, 91, 93, 100
 - federal subsidies, 3, 5, 29, 31
 - Federal Transit Administration, 3, 29, 32
 - ferries, 5, 27, 29, 59, 62
 - government revenues/expenditures, 59, 61, 62, 79
 - injuries, 85
 - intelligent transportation systems, 31
 - labor productivity, 76, 77
 - passenger-miles, 3, 5, 16, 59
 - property damage, 61
 - rural areas, 3, 32–33
 - terrorism, 84
 - urban capacity and use, 3, 5, 13, 16, 29–31, 39, 59, 61, 62
 - vehicles, 3, 16, 29, 31
 - see also* Buses; Road transportation; Railroads
- Transportation employment, *see* Employment

Transportation Equity Act for the 21st Century (TEA-21), 10–11, 23, 83–84, 144, 146, 147, 148

Transportation expenditures, 5, 6
 capital investment, 7, 69, 76, 80, 81
 consumer expenditures on transportation, 5, 6, 67, 68–73
 government expenditures, 5, 7, 67, 69, 78, 79–81, 145

see also Cost and cost-benefit factors

Transportation-related final demand, 67–68, 69, 78

Transportation Research Board, 92, 144

Transportation revenues

 air transportation, passengers, 57

 buses, 59

 rail freight, 2, 6, 21, 61–62

 rail passenger travel, 59

 transit, 59, 61, 62

see also Government revenues; Gross Domestic Product

Transportation safety, 1, 7–8, 53, 83–102

 air bags, 88, 90, 134

 children, 39, 41, 83–84, 88, 90–93, 94, 100

 data needs, 8, 10, 11, 100, 146, 148

 accidents, 8, 88, 98, 100–101

 risk exposure, 8, 100, 143–144

 demographic factors, 39–41, 100, 143–144

 developing countries, 98–100

 elderly persons, 7, 94, 100

 foreign countries, 8, 84, 97, 98–100

 helmets, bicyclists, 96

 medical services, injuries, 88, 95

 National Highway Traffic Safety

 Administration, 84, 90, 92

 National Transportation Safety Board, 92, 93, 124

 rail transportation, 14, 23, 31, 32

 risk exposure, 8, 94, 95, 100

 safety belts, 88, 90, 92

 school bus safety, 83, 88, 91, 92–93

 terrorism, 83, 84, 96–98

 waterborne transportation, vessel dismantling, 134

see also Accidents; Alcohol and drug abuse; Crashes; Fatalities; Hazardous materials; Injuries; Toxic pollutants

Transportation Satellite Accounts, 6, 68

Travel, *see* Business travel; Mid-range travel

(trips); Long-distance travel (trips)

Trip purpose, 38

 business travel, 38, 40, 146

 recreational, 2, 16, 25, 84, 85, 86, 93, 129, 131

Trucks and trucking, 4, 45

 accidents, 88

 age of vehicle, 20

 air pollution, 117

 data needs, 136

 economic indices, 14, 44, 45, 46, 68

 employment, 6, 73–74, 75, 76, 77

 energy efficiency, 105, 106–107, 136

 for-hire, 4, 6, 45, 46, 68

 in-house transportation, 6, 68

 injuries/fatalities, 7, 86, 87, 88, 89, 91

 international, 51, 52, 53

 labor productivity, 6, 76

 Mexican freight, 49, 50, 51–52, 53, 147

 manufacturing of, pollutants, 129

 number and use, 2, 4, 15, 18, 21, 44, 98

 ton-miles, 4, 44, 45, 46, 51

 vehicle disposal, 133

see also Light trucks

TSAs, *see* Transportation Satellite Accounts

U

Underground storage tanks, 10, 127, 132–133

Union Pacific Railroad, 23, 32

United Kingdom, 28, 49, 51, 99–100

United Nations Framework Convention on Climate Change, 114

Urban areas

 air pollution, 113–114, 115–116, 121–122, 126

 bicycle lanes, 96

 buses, 16, 29, 37

 commuting speed, 39; *see also* “congestion” *infra*

 congestion, 5, 10, 53–56, 57, 84

 carpooling, 3, 29, 39, 57, 86, 116

 consumer spending, 72

 developing countries, 99

 highways, 3, 5, 14, 15, 17, 18, 19, 21, 54–56

 intelligent transportation systems, 3, 31

 intercity travel, 2, 5; *see also* Amtrak

 buses, 37

 cost of, 37

 employment, 73, 74

- high-speed rail, 14, 22, 23–24, 32
- rail, general, 27
- local passenger travel, 39, 42
- long-distance travel, 40, 42; *see* “*intercity travel*” *supra*
- sprawl, 99
- suburban areas, 39, 41–42, 57
- transit capacity and use, 3, 5, 13, 16, 29–31, 39, 59, 61, 62
- vehicle-miles traveled, 5, 54, 56
- U.S. Army Corps of Engineers, 10, 25, 43, 59, 137
- U.S. Coast Guard, 27, 28, 31, 124
- U.S. Customs Service, 147
- U.S. Department of Commerce, 43
 - Bureau of Labor Statistics, 75
 - Transportation Satellite Accounts, 6, 68
 - see also* Bureau of the Census
- U.S. Department of State, 97
- U.S. Department of Transportation
 - air transportation, consumer complaints, 58–59
 - data needs, 144
 - hazardous materials spills, 124
 - local travel, 35
 - Nationwide Personal Transportation Survey, 11, 18, 20, 35, 36, 37, 38, 41, 44, 56–57, 88, 93
 - safety policy, 7, 83, 144
 - school children, safety, 83–84
 - see also* Bureau of Transportation Statistics; *specific administrations*
- U.S. merchandise trade, 4, 48, 49–53
- U.S. Navy, 134
- U.S. Postal Service, 131

V

- Vanpooling, 3, 29, 86
- Vans
 - fuel economy, 109
 - number of, 108
 - used in school transportation, 93
- Vehicle disposal, 10, 133–135, 138
- Vehicle-miles traveled, 3, 5, 8, 15, 56
 - air pollution, 117, 119
 - data needs, 100
 - fatalities, 7, 84
 - by functional class, 56
 - safety, general, 8

- urban areas, 5, 54, 56
- Vehicles, 3, 14
 - age of vehicle, 20, 33
 - data needs, 3, 32–33, 107
 - disposal of, 10, 133–135, 138
 - manufacturing phase pollution, 10, 117, 127–131, 137–138
 - number of, 1–2
 - transit, 3, 16, 29, 31
 - see also* Alternative vehicles; Bicycles; Motor vehicles; Personal-use vehicles; Rented vehicles; Vessels

- Venezuela, 49, 110

Vessels

- accidents, 84, 85, 86
 - recreational boating, 84, 85, 86
- barges, 26, 27, 133
- data needs, 33
- dismantling, 134–135
- ferries, 5, 27, 29, 59, 62
- inland water, 26, 27, 133
- marine vessels,
 - containerships, 2, 26, 27, 28
 - cruise ships, 16, 25, 26
 - dismantling, 134–135
 - tankers, 26, 27, 28, 43
 - oil spills, 9, 104, 123–124
- number and use, 2, 16, 25, 26, 27, 28, 29
- pollution from, 125
- recreational boats, 2, 16, 25, 84, 85, 86, 129, 131
- shipbuilding, 28, 130

- Virginia
 - Dulles Airport, 126–127
 - Hampton Roads, 2, 26
 - high-speed rail, 24
 - Norfolk, 51, 52, 60

- Volatile organic compounds, 9, 104, 117, 118, 119, 123, 128, 130, 132

W

- Walking as a form of transportation, 4, 7, 37, 84, 90, 91, 93–95
 - see also* Pedestrians
- Warehousing, 6, 68
 - employment, 6, 73–74
- Washington, DC, *see* District of Columbia

- Washington State
 - motor vehicle service stations, pollutants, 131–132
 - rail transportation, information technology, 32
 - Port of Seattle, 2, 26, 51, 52
 - Port of Tacoma, 2, 26, 51, 52
- Waste materials, 125–127
 - dredge sediment, 9, 125, 137
 - nonhazardous industrial wastes, 9, 130
 - recycling, 133–135, 138
 - vehicle cleaning, 132
 - vehicle disposal, 133–135, 138
 - vehicle manufacturing, 127, 129
 - see also* Solid waste
- Waterborne transportation, 59
 - accidents, 84, 85, 86
 - barges, 26, 27, 133
 - cruise ships, 16, 25, 26
 - data needs, 10–11, 33, 100
 - dredging, 9, 125, 137
 - eastern U.S., 4, 50, 51
 - employment, 73, 75
 - energy use, 105
 - extent and use, 16, 25–27, 59
 - fatalities, 85, 86
 - ferries, 5, 27, 29, 59, 62
 - freight, 2, 4, 25–27, 44, 50, 51, 52, 53, 59
 - barges, 26, 27, 133
 - international, 2, 4, 25, 28, 50–51
 - tankers, 26, 27, 28, 43
 - oil spills, 9, 104, 123–124
 - ton-miles, 3–4, 16, 44, 46
 - government revenues/spending, 7, 78–79
 - hazardous materials spills, 124
 - injuries, 85
 - international freight, 2, 4, 25, 28, 50–51
 - passenger transportation, 16, 25, 26–27
 - cruise ships, 16, 25, 26
 - ferries, 5, 27, 29, 59, 62
 - recreational boats, 2, 16, 25, 84, 85, 86, 129, 131
 - safety, 85, 100
 - tankers, 26, 27, 28, 43
 - oil spills, 9, 104, 123–124
 - see also* Inland waterways; Maritime transportation; Ports; Recreational boating; Vessels; *specific rivers and waterways*
- Water pollution, 125
 - data needs, 116–117
 - deicing/anti-icing agents, 127
 - dredging, 9, 125, 137
 - hazardous materials spills, 124
 - maritime, 125
 - oil spills, 9, 104, 123–124
 - pipeline spills, 124, 137
 - storage tanks, leakage, 10, 127, 132–133
- Weather conditions, 100, 103
 - accidents, 8
 - air transportation, deicing, 127
 - alternative fuel vehicles, 113
 - road transportation, 8
- Western U.S.
 - consumer spending, 71
 - oceanborne international trade, 4, 50–51
 - see also* Midwest U.S.; Pacific states; *specific states*
- White persons, local travel, 39
- Wholesale/retail trade, 44, 45, 68
- Wildlife, 9, 125
 - data needs, 116–117
- Wisconsin, 60
- Women, *see* Gender factors
- Wood products, *see* Lumber and wood products
- Workforce, *see* Employment
- World Health Organization, 98–99
- World Wide Web, *see* Internet
- Wyoming, 62